WEATHER CONDITIONS ON THE NORTH ATLANTIC DURING OCTOBER, 1914.

The data presented are for October, 1914, and comparison and study of the same should be in connection with those appearing in the REVIEW for that month. Chart IX (XLIII—122) shows for October, 1914, the averages of pressure, temperature, and the prevailing direction of the winds, together with the locations and courses of the more severe storms of the month.

For the month as a whole the distribution of the atmospheric pressure over the greater part of the ocean was not unlike the normal shown on the Meteorological Chart of the North Atlantic Ocean for October. The Azores high was of less prominence than usual, though a trace of it appears near its usual position, where in two 5° squares the average barometric pressure for the month was 30.10 inches.

A second high of about the same intensity was central over the eastern portion of the United States, extending out over the ocean as far as the sixty-ninth meridian. The isobar indicating the lowest average barometer readings shown on the chart, 29.80 inches, was of normal intensity and near its usual position, some distance south of the apparent center of the Icelandic low, the exact location of which it was impossible to plot on account of lack of reports from that part of the ocean. This unusual uniformity of pressure, with the small gradients that prevailed over the greater part of the ocean, was responsible for the large number of days with light and variable winds, there being few gales reported during the first two decades of the month.

On the 19th a low (I on Chart IX) appeared near latitude 55° N., longitude 32° W. There were few vessels in the immediate vicinity of this apparent center, and none of them reported very heavy winds, although the Danish steamer *Texas*, at latitude 51°, longitude 42°, recorded a gale of 65 miles an hour. From its position on the 19th the storm moved in a southeasterly direction, and on the 20th was centered near latitude 50°, longitude 20°, the barometer reading 29.50 inches, and several vessels reporting winds of 48 miles an hour, while 5° north of the center the British steamship *Rathlin Head* encountered a 65-mile gale.

By the 21st the low had moved due east to longitude 13°, the wind having decreased near the center, though the *Rathlin Head*, which had sailed in an easterly direction at about the same rate of speed as the storm, reported a northerly gale of 65 miles an hour near latitude 45°, longitude 15°. On the 22d the low was near latitude 52°, longitude 7°, the wind having decreased in force to 48 miles an hour in the southwest quadrant, while near the center it ranged from 30 to 36 miles.

On October 22 a second low (II on Chart IX) was centered about 200 miles north of St. Johns, N. F., accompanied by comparatively light winds. This moved in an easterly direction and on the 23d the center was located near latitude 48°, longitude 38°. The lowest barometer reading was 28.81 inches, and one vessel reported a southwesterly wind of 75 miles an hour, the highest velocity recorded during the month. From this point the movement of the storm was slow, as on the 24th the center was about latitude 49°, longitude 33°, the barometer having risen to 29.92 inches, and the velocity of the wind decreased slightly, although a vessel 12° west of the center reported a northwest gale of 65 miles an hour. The storm then moved toward the north and on the 26th was centered near latitude 55°, longitude 32°, with a slightly lower barometer reading than on the previous day and about the same wind velocity. This disturbance evidently continued on its northerly course, although it is impossible to plot its track on account of lack of observations. The area covered by winds of gale force on the 28th was quite large as one vessel near latitude 55°, longitude 32°, reported a barometer reading of 29.33 inches, with a northwest wind of 65 miles, while at latitude 48°, longitude 25°, with a barometer reading of 30.16 inches, there was a westerly wind of 56 miles, the velocities reported by vessels between these two points ranging from 40 to 48 miles an hour.

On the 25th a slight disturbance (III on Chart IX) appeared near latitude 17°, longitude 86°, accompanied by light winds near its center, although a ship between New Orleans and Galveston reported a northeast gale of 48 miles an hour. This storm moved slowly in a northeasterly direction, but by the 27th it had increased in velocity, and was centered near latitude 44°, longitude 66°, but without heavy winds near its center, although two ships reported northerly gales of 48 miles off Hatteras. On the 28th it was near the southern coast of Newfoundland, having increased in intensity, as several vessels encountered winds of from 48 to 56 miles an hour. It then moved in an easterly direction, and on the 29th was near latitude 46°, longitude 36°, the winds having decreased in velocity and the barometer risen, showing that the low was gradually filling in.

TEMPERATURES.

The temperatures of the air over the ocean as a whole were irregular, the departures from the normal ranging from +7° F. off the coasts of Spain and France to −6° in the 5° square bounded by parallels 50° and 55°, and meridians 35° and 40°. At a number of Weather Bureau stations on the Atlantic coast the departures were as follows: Eastport, +2.6°F.; Boston, +4.7°; New York, +3.4°; Norfolk, +2.6°; Hatteras, +1°; Wilmington, +2.5; Charleston, +1.3°; Jacksonville, +1.9°; Miami, −1.8°; Key West, −0.4;° Tampa, +1.6°; Pensacola, −0.6°; New Orleans, +0.8°; Galveston, −0.7°; and Corpus Christi, +0.2°.

The greatest monthly range of temperature for any one 5° square was from 49° to 71°, which occurred in the square between latitude 35° and 40° and longitude 75° and 80°, while in mid-ocean along the trans-Atlantic routes the range seldom exceeded 18°, which is somewhat larger than the maximum observed in September for the same region.

FOG.

Observations of fog during October for the six-year period from 1901 to 1906, as shown on the Meteorological Chart of the North Atlantic for October, indicate that the greatest number of days on which fog was observed occurred in an area centered near latitude 46°, longitude 49°. Here the normal percentage was given as from 30 to 35, while for October, 1914, fog was observed in that vicinity on three days only, or a percentage of 10. Near latitude 43°, longitude 22°, the normal percentage is from 20 to 25, while for the month under discussion it was zero. The number of days with fog was less than the normal on all parts of the ocean, and along the trans-Atlantic routes this difference was marked, as no reports of fog were received for the month east of the forty-fifth meridian.

The first snow of the season was reported on October 17 by two vessels near latitude 53°, longitude 42°, and again on the 18th and 20th, while hail was recorded on the 17th near latitude 50°, longitude 46°.